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| APPLICATION NO.                     | FILING DATE | FIRST NAMED INVENTOR        | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------------|-------------|-----------------------------|---------------------|------------------|
| 10/564,041                          | 05/10/2006  | Richard Hendrikus Brinkhuis | 00307 0029 PCU/S00  | 5775             |
| 23369                               | 7590        | 02/26/2009                  |                     | EXAMINER         |
| HOWREY LLP-HN                       |             |                             |                     | FEELY, MICHAEL J |
| C/O IP DOCKETING DEPARTMENT         |             |                             | ART UNIT            | PAPER NUMBER     |
| 2941 FAIRVIEW PARK DRIVE, SUITE 200 |             |                             |                     | 1796             |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |
|------------------------------|--------------------------------------|---|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/564,041 | <b>Applicant(s)</b><br>BRINKHUIS ET AL. |
|                              | <b>Examiner</b><br>Michael J. Feely  | <b>Art Unit</b><br>1796                 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 18 November 2008.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-11 and 14-18 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-4,6-11,14,15,17 and 18 is/are rejected.

7) Claim(s) 1-11 and 14-18 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Pending Claims***

Claims 1-11 and 14-18 are pending.

***Response to Amendment***

1. The previous objection to claims 12 and 13 under 37 CFR 1.75(c) has been rendered moot by the cancellation of these claims.
2. The previous objection to claims 4-11 under 37 CFR 1.75(c) has been overcome by amendment.
3. The previous rejection of claims 1-11 under 35 U.S.C. 101 and 35 U.S.C. 112, 2<sup>nd</sup> paragraphs has been overcome by amendment.
4. The previous rejection of claims 1-3 under 35 U.S.C. 102(b) as being anticipated by Kida et al. (JP 08-071406) has been overcome by amendment.

***Claim Objections***

5. Claims 1-11 and 14-18 are objected to because of the following informalities: the pending claims disclose a rheology modification agent *obtainable* by reacting one or more polyisocyanates with one or more optically active amino acids, esters, salts thereof or combinations thereof of the general formula (I). The claims should feature the word *obtained* to improve the clarity of the claims. This is particularly because Applicant fails to disclose other methods of obtaining their rheology modification agent. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

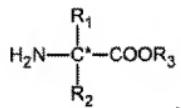
6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4, 8, 11, 14, 15, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Asahina (JP 05-017707).

*Regarding claims 1-4, 8, 11, 14, 15, and 18*, Asahina discloses: (1) a coating composition comprising: i) a binder (Abstract), and ii) a rheology modification agent (Abstract; paragraph 0007) *obtained* by reacting one or more polyisocyanates (paragraphs 0007-0010) with one or more optically active amino acids, esters, salts thereof, or combinations thereof of the general formula (I)



not as racemic mixture, wherein each of  $\text{R}_1$ ,  $\text{R}_2$ , and  $\text{R}_3$  is independently selected from the group consisting of hydrogen and linear or branched, substituted or unsubstituted, saturated or unsaturated hydrocarbyl or heteroatom containing group, with each of  $\text{R}_1$  and  $\text{R}_2$  being different such that the carbon atom  $\text{C}^*$  is a chiral centre (paragraphs 0007, 0011, 0016);

(2) wherein the one or more polyisocyanates are selected from the group consisting of substituted or unsubstituted linear aliphatic polyisocyanates with an even number of carbon atoms in the chain between two isocyanate groups, condensed dimer and trimer derivatives, and

substituted or unsubstituted arylene, aralkylene, and cyclohexylene polyisocyanates (Abstract; paragraph 0007);

(3) wherein the one or more optically active amino acid acids, esters thereof, or combinations thereof of formula (I) are selected from the group of compounds consisting of (*see claim for list and structures*): (Abstract; paragraph 0016);

(4) wherein R<sub>1</sub>, R<sub>2</sub>, or a combination thereof is a hydrocarbyl independently selected from the group consisting of linear, cyclic or branched, substituted or unsubstituted, saturated or unsaturated, optionally hetero atom-containing, C<sub>1</sub>-C<sub>24</sub> alkyl, aryl, aralkyl, and alkenyl (paragraph 0016);

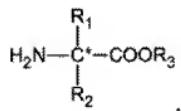
(8) wherein the coating composition is an epoxy curable coating composition (paragraph 0033);

(15) wherein R<sub>1</sub>, R<sub>2</sub>, or a combination thereof is a hydrocarbyl independently selected from the group consisting of linear or branched C<sub>1</sub>-C<sub>24</sub> alkyl, linear or branched C<sub>1</sub>-C<sub>4</sub> alkyl, a methyl group, and an ethyl group (paragraph 0016);

(18) wherein the one or more polyisocyanates are selected from the group consisting of substituted or unsubstituted linear aliphatic polyisocyanates with an even number of carbon atoms in the chain between two isocyanate groups, uretdione triimers, isocyanurate triimers, biuret triimers, and substituted or unsubstituted arylene, aralkylene, and cyclohexylene polyisocyanates (Abstract; paragraph 0007);

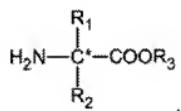
(11) a method comprising the step of applying a coating film of a coating composition onto a substrate before said coating film is cured (Abstract; paragraphs 0033, 0036); wherein the coating composition comprises: i) a binder (Abstract), and ii) a rheology modification agent

(Abstract; paragraph 0007) *obtained* by reacting one or more polyisocyanates (paragraphs 0007-0010) with one or more optically active amino acids, esters, salts thereof, or combinations thereof of the general formula (I)



not as racemic mixture, wherein each of R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> is independently selected from the group consisting of hydrogen and linear or branched, substituted or unsubstituted, saturated or unsaturated hydrocarbyl or heteroatom containing group, with each of R<sub>1</sub> and R<sub>2</sub> being different such that the carbon atom C\* is a chiral centre (paragraphs 0007, 0011, 0016);

**(14)** a method comprising the step of incorporating a rheology modification agent into a coating composition (Abstract) comprising the rheology modification agent (Abstract; paragraph 0007) and a binder (Abstract); wherein the rheology modification agent is *obtained* by reacting one or more polyisocyanates (paragraphs 0007-0010) with one or more optically active amino acids, esters, salts thereof, or combinations thereof of the general formula (I)



not as racemic mixture, wherein each of R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> is independently selected from the group consisting of hydrogen and linear or branched, substituted or unsubstituted, saturated or unsaturated hydrocarbyl or heteroatom containing group, with each of R<sub>1</sub> and R<sub>2</sub> being different

such that the carbon atom C\* is a chiral centre (paragraphs 0007, 0011, 0016).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6, 7, 9, 10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asahina (JP 05-017707) in view of Sapper et al. (US 2003/0100626).

Regarding claim 6, 7, 9, 10, and 17, the teachings of Asahina are as set forth above and incorporated herein. Asahina disclose a urea-based rheology modification agent used to impart thixotropy to water-based paint compositions (*see Abstract*). Asahina contemplate a number of unlimited paint systems (*see paragraph 0033*); however, they fail to explicitly disclose the paint/coating systems set forth in claims 6, 7, 9, 10, and 17.

Snapper et al. also disclose a urea-based rheology modification agent (*see Abstract; claims*) wherein they are used in concert with a number of paint/coating systems. These systems include: **(6)** wherein the coating composition is an isocyanate based coating composition (paragraphs 0092, 0094, 0202, 0204); **(7)** an acryloyl based coating composition (paragraph 0093); **(9)** a dual curable coating composition (paragraph 0200); **(10)** an isocyanate-reactive two-component (2K) coating system that is cured with one or more polyol compounds, thiol compounds, amine-functional compounds, or combinations thereof, at a temperature of at least 25°C and below 150°C (paragraphs 0202, 0204); and **(17)** an isocyanate-reactive two-component

(2K) coating system that is cured with one or more polyol compounds, thiol compounds, amine-functional compounds, or combinations thereof, at a temperature of at least 25°C and below 100°C (paragraphs 0202, 0204). These teachings demonstrate that urea-based rheology modification agents are recognized in the art as suitable additives for the instantly claimed paint/coating systems. In light of this, it has been found that the selection of a known material based on its suitability for its intended use supports a *prima facie* obviousness determination – see MPEP 2144.07.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add the rheology modification agent of Asihina to the instantly claimed paint/coating systems because the teachings of Snapper et al. demonstrate that urea-based rheology modification agents are recognized in the art as suitable additives for the instantly claimed paint/coating systems.

***Allowable Subject Matter***

10. Claims 5 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: Asahina fails to teach or suggest the following claim limitations:

(5) wherein R<sub>3</sub> is a hydrocarbyl selected from the group consisting of linear, cyclic or branched, substituted or unsubstituted, saturated or unsaturated, optionally hetero atom-containing C<sub>1</sub>-C<sub>25</sub> alkyl, aryl, aralkyl, and alkenyl; and (16) wherein R<sub>3</sub> is a hydrocarbyl is

selected from the group consisting of linear or branched, substituted or unsubstituted, optionally hetero atom-containing C<sub>1</sub>-C<sub>25</sub> alkyl; linear or branched, substituted or unsubstituted C<sub>1</sub>-C<sub>8</sub> alkyl, ether, optionally esterified, C<sub>1</sub>-C<sub>8</sub> (poly)alkoxy; and linear C<sub>1</sub>-C<sub>4</sub> alkyl and, optionally alkoxylated, linear C<sub>1</sub>-C<sub>4</sub> alkoxy.

In other words, he fails to reasonably teach or suggest the use of an amino acid *ester* as a reactant for his rheology modification agent. His intent is to produce a reaction product with a urea bond and a *hydrophilic* group, wherein the hydrophilic group is introduced by the carboxyl group of the amino acid (COOH). Introducing a *relatively hydrophobic* carboxyl ester group (COOR<sub>3</sub>) would have been a departure from the spirit of his invention.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Lenges et al. (US 2006/0155146 & US 2006/0155021) disclose the instant invention (*see Abstract; structures 27-31*). However, neither of these references qualify as prior art.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/  
Primary Examiner, Art Unit 1796

February 23, 2009